

Patent claims:

1. A method of hydrodechlorinating nuclear-chlorinated o-xylenes and recovering o-xylene with formation of hydrogen chloride, which comprises hydrogenating the nuclear-chlorinated o-xylenes in the gas phase at a noble-metal-containing catalyst at a temperature in the range from 220 to 360°C.
2. The method as claimed in claim 1, wherein the catalyst comprises palladium or platinum, in particular supported palladium or platinum.
3. The method as claimed in at least one of the preceding claims, wherein the support for the noble metal is oxidic materials such as aluminum oxide or silicon oxide, or else carbon, preferably carbon.
4. The method as claimed in at least one of the preceding claims, wherein the amount of hydrogen fed is at least the equimolar equivalent of the molar content in the starting material.
5. The method as claimed in at least one of the preceding claims, wherein the nuclear-chlorinated o-xylenes are used individually or as mixtures.
6. The method as claimed in at least one of the preceding claims, wherein the hydrogenation reaction is carried out at atmospheric pressure.